



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/754,362

01/08/2004

James Weldon

29985/03-006

7606

57726 7590 02/28/2008  
MILLER, MATTHIAS & HULL  
ONE NORTH FRANKLIN STREET  
SUITE 2350  
CHICAGO, IL 60606

EXAMINER

NEAL, TIMOTHY J

ART UNIT

PAPER NUMBER

3731

MAIL DATE

DELIVERY MODE

02/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/754,362	<b>Applicant(s)</b> WELDON ET AL.	
	<b>Examiner</b> Timothy J. Neal	<b>Art Unit</b> 3731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This action is in response to the amendments and Request for Continued Examination received on 10/15/2007.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strecker (US 6,416,522).

Strecker discloses the following:

1. A fixation system for fixing an implantable device in a body cavity, comprising:  
an implantable device (80, 87); a plurality of resilient delivery members movable between a generally longitudinal delivery position and a radially expanded deployment position (93), the delivery members defining a delivery channel therein with a distal opening, each delivery member having a distal end formed with a blunt profile adapted to engage the implantable device (Fig 12); a fixation component slidably disposed in each of the delivery channels (95); and a pusher slidably disposed in each of the delivery channels to push the fixation component in each delivery channel (98).

2. The fixation system of claim 1 and further comprising: a delivery sheath slidable over the plurality of resilient delivery members (89).

3. The fixation system of claim 1 wherein the delivery members define the delivery channel as a closed lumen therein with the distal opening (Fig 12).

Strecker discloses in a separate embodiment the tab and slot (Figure 15 Items 103 and 107). The Examiner also notes that tab and slot configurations are well known in drivers, the most common being a screw driver. Essentially, the pusher is guiding the anchor into place. A tab and slot configuration is old and well known to aid in the control of the anchor by the pusher. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Strecker's pusher and anchor to include a tab and a slot as is known in the art. Such a modification aids in controlling the anchor with the pusher.

**Claims 4-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strecker (US 6,416,522) in view of Hlavka et al. (US 2004/0172046).

Strecker discloses the invention substantially as claimed as stated above.  
Strecker further discloses:

5. The fixation system of claim 4 wherein the delivery members, when in the deployed position, urge the implantable device against a wall of the body cavity (Fig 13).

6. The fixation system of claim 5 wherein the first fixation member is disposed to pierce the implantable device and a wall of the body cavity when advanced from the delivery channel by the pusher (Fig 13).

7. The fixation system of claim 6 wherein the first fixation member has a sharpened end for piercing the implantable device and body cavity wall (95).

8. The fixation system of claim 6 wherein the first and second fixation members are arranged in a generally longitudinally aligned orientation when in the delivery channel (Fig 14).

9. The fixation system of claim 8 wherein one of the first and second fixation members are releasably connected to the pusher (Fig 12).

Strecker does not disclose each fixation component comprises: a first fixation member; a second fixation member; and a tether connecting the first and second fixation members.

Hlavka teaches each fixation component comprises: a first fixation member; a second fixation member; and a tether connecting the first and second fixation members (Fig 10a Items 904 and 905). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Strecker's fixation system to include Hlavka's fixation member and tether. Such a modification would allow

the two members to be pulled against one another with the tissue and/or graft between them, thus securing the graft to the tissue.

**Claims 10-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strecker (US 6,416,522) in view of Miller (WO 02/17797).

Strecker discloses the invention substantially as claimed as stated above.

Strecker does not disclose an inner sheath, a releasable fixation member, and an expandable member at the distal end of the sheath. Miller teaches an inner sheath, the plurality of delivery members being arranged generally radially about the inner sheath (Fig 12 Item 210), a releasable fixation member releasably fixing the vascular graft to a distal end of the inner sheath (Fig 16 Item 235), an expandable member expandable from a contracted position closely proximate an exterior of the delivery sheath to an expanded position urging the vascular graft against the wall of the body cavity (Fig 15 Item 210), the expandable member is positioned at a distal end of the delivery sheath (Fig 10 Item 210), and the expandable member has a distal end thereof shaped in the expanded position to conform to a shape of the delivery members in the deployment position (210). The Examiner notes that the Applicant is suggesting the inner sheath is non-obvious in view of Miller. The Examiner disagrees. At the very least, it is well known to have guide wires in these systems. The guide wire would have its own lumen enclosing the guide wire to keep it stable and in position. This would be a sheathed guide wire. The device would encircle the guide wire placing the delivery members around the inner sheath. Therefore, it would have been obvious to a person having

Art Unit: 3731

ordinary skill in the art at the time the invention was made to modify Strecker's fixation system to include Miller's inner sheath and expandable member. Such a modification would restrain the delivery members until deployment, fix the graft until deployment preventing undesirable release, and a balloon to ensure full expansion of the graft.

**Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Strecker (US 6,416,522) in view of Lenker et al. (US 5,683,451).

Strecker discloses the invention substantially as claimed as stated above. Strecker does not disclose each channel having a slot at the distal end of the delivery members. Lenker teaches using slots that expand upon release of a prosthesis (Figure 11 items 84). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Strecker's delivery members to include Lenker's slots. Such a modification would allow for a reduced entry diameter with sufficient room for the prostheses to be deployed because the slots will expand upon release.

**Claims 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Strecker (US 6,416,522) in view of Lenker et al. (US 5,683,451) as applied to claim 16, and further in view of Starksen et al. (US 2004/0193191).

Strecker and Lenker disclose the invention substantially as claimed as stated above.

They do not disclose each of the delivery members defines an associated delivery channel as a channel having a slot communicating with an exterior of the delivery member; the fixation component comprises: a piercing member with a tether attached thereto; pairs of piercing members in adjacent delivery members are tethered together by the tether; the tether is oriented to ride through the slots in the adjacent delivery members as the pushers advance the piercing members through the channel in the delivery members; the pairs of piercing members are advanced through the implantable device and through a wall of the body cavity, the piercing members pulling ends of the tether through the implantable device and through the wall of the body cavity.

Starksen teaches each of the delivery members defines an associated delivery channel as a channel having a slot communicating with an exterior of the delivery member (Fig 9A Item 528); the fixation component comprises: a piercing member with a tether attached thereto (Fig 9B Item 534); pairs of piercing members in adjacent delivery members are tethered together by the tether (Fig 9B Item 534); the tether is oriented to ride through the slots in the adjacent delivery members as the pushers advance the piercing members through the channel in the delivery members (Fig 9B Item 534); the pairs of piercing members are advanced through the implantable device and through a wall of the body cavity, the piercing members pulling ends of the tether through the implantable device and through the wall of the body cavity (the Examiner considers “are advanced through the implantable device and through a wall of the body cavity, the piercing members pulling ends of the tether through the implantable device and through



the wall of the body cavity” to be functional language directed at an intended use and therefore gives the clause no weight; Fig 9A Item 526 are directed at the piercing members). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Strecker’s delivery members to include Starksen’s slot and tether. Such a modification would provide a means to tighten the anchors for securing the graft against the vessel wall.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

The Applicant’s amendments and arguments clearly suggest that the Applicant considers tab/slot configurations, inner sheaths, and slots in tubular members to be non-obvious. The Examiner considers these features to be well known in the art. Tab/slot engagements have been used in very common devices to keep the two pieces together without premature release. A screw and screw driver were mentioned in the rejection, but Strecker disclose a variation of this concept. Inner sheaths and separate lumens for guide wires are well known. The use of a guide wire would prompt a person having ordinary skill to use a separate lumen. To avoid interference between the parts, the guide wire is enclosed in some tubular structure, i.e. a sheath. The most logical location for the guide wire is in the center of the device, thus placing the delivery members about its exterior surface. Also, Miller's balloon 210 is considered a sheath because it encloses the guide wire as a sheath would. Having slots on the distal ends

of tubes from which something is released is also well known. Slots allow the tube to expand with the item being released and then return to its original diameter after release. This keeps diameters small and is advantageous when dealing with bodily insertion.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Neal whose telephone number is (571) 272-0625. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on (571) 272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/754,362  
Art Unit: 3731

Page 10

TJN

/Todd E Manahan/  
Supervisory Patent Examiner, Art Unit 3731